



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,034	02/19/2004	Leonard T. Chapman	54767.8065.US00	4269
34055	7590	03/22/2006	EXAMINER	
PERKINS COIE LLP POST OFFICE BOX 1208 SEATTLE, WA 98111-1208			QUIETT, CARRAMAH J	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 03/22/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/782,034	CHAPMAN, LEONARD T.	
	Examiner	Art Unit	
	Carramah J. Quiett	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6, 9-14, 18, 19 and 23-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 18 and 23 is/are allowed.
- 6) ☒ Claim(s) 12, 13, 14, 19, 24-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 1-6, 9-11, 28 and 30 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 12/29/2005 has been entered.

Response to Amendment

2. The amendment(s), filed on 12/29/2005, have been entered and made of record. Claims 1-6, 9-14, 18-19, and 23-30 are pending.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show purge gas ports 226 in figures 4, 8, and 17 as described in the specification. Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the

remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1 and 28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

6. Claim 1 recites the limitation "them" in the second line and the last line of claim 1. Who is "them"? There is insufficient antecedent basis for this limitation in the claim.

7. Claim 28 recites the limitation "them" in last line of claim 28 on page 7 and the last line of claim 28. Who is "them"? There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

9. **Claims 12-13** are rejected under 35 U.S.C. 102(b) as being anticipated by Chapman (U.S. Pat. #6,517,207).

For **claim 12**, Chapman discloses a camera head (figs. 1/8, 42, 44, 60, 68/[fig. 8, 280], 124) comprising:

a first frame (fig. 2, refs. 44[80/84/88], 46, and 60);

a first arm (fig. 2, refs. 44[80/84/88]) rotatably attached to the first frame (figs. 4B/7; col. 7, lines 53-62 and col. 8, lines 6-10);

a first motor (figs. 22-24, 804) for rotating the first arm relative to the first frame (col. 17, lines 1-10), with the first motor enclosed within a sealed first housing (fig. 4B, 46). The first housing includes a cap plate and an axle that is irrotatably secured by a key (col. 6, line 63 – col. 7, line 3). Then in col. 7 lines 53-62, Chapman states that the housings (the pivots) have optional designs and the joint construction in fig. 7 is for all of the joints. Therefore, it is inherent for the seals/fasteners for securing the components of the first housing to be similar to that of the second housing. In col. 17, lines 1-10, Chapman states that the drive system, which includes a motor, can be placed on the other housings (joints) of the camera head to provide tilting movement.

Art Unit: 2612

Therefore, it is inherent for the first motor to be enclosed within the sealed first housing of Chapman.

Chapman also discloses a second frame (fig. 4B, refs. 42/124/140) attached (col. 7, lines 2-3) to the first arm (fig. 2, refs. 44[80/84/88]);

a second arm (fig. 4B, 42) rotatably attached (col. 6, lines 56-65) to the second frame; and

a second motor (figs. 22-24, 804) for rotating the second arm relative to the second frame, with a second motor (inherently) enclosed within a sealed second housing (fig. 4B, 124/140). Additionally, in col. 12, lines 18-30, Chapman teaches that the second housing includes 360 degree panning movements, which inherently means that the panning operation rotates. In col. 17, lines 1-10, it states that the drive system, which includes a motor, can be placed on the other housings (joints) of the camera head to provide panning movement.

Therefore, it is inherent for the second motor to be enclosed within the sealed second housing of Chapman. The second housing, which is the pan pivot joint of Chapman, includes a cap plate (also the second frame) and an axle that is irrotatably secured by a key (col. 6, line 63 – col. 7, line 3);

Lastly, Chapman discloses a first shaft (fig. 4B, ref. 240/236; fig. 22, ref. 810) rotatably supported within the first housing (col. 8, lines 6-17; col. 2, lines 31-36), with the second frame (which includes the second arm [ref. 42]) attached (col. 5, lines 39-40/49-50; col. 17, lines 1-13) to the first shaft, and the first shaft sealed against the first housing (col. 8, lines 6-24 and 30-45; col. 17, lines 11-41), a first gear (ref. 806) linked (col. 17, lines 13-16) to the first shaft through a first clutch (ref. 830), and with the first gear linked to the first motor (col. 17, lines 13-16), and

Art Unit: 2612

one or* more clutch drive pins (fig. 22, ref. 833)sealed against the first housing (col. 18, lines 25-29), and moveable from a first position, wherein with first motor drives the first shaft through the first clutch (col. 18, lines 13-44), to a second position, wherein the first shaft can rotate free of the motor (col. 18, lines 45-67).

***Note:** The U.S. Patent and Trademark Office considers Applicant's "*or*" language to be anticipated by any reference containing one of the subsequent corresponding elements.

For **claim 13**, Chapman discloses a camera head (in fig. 8) further comprising a third frame (284/294), a third arm (272) rotatably attached (276/278) to the third frame, and a third motor (figs. 22-24, 804) for rotating the third arm relative to the thirist frame (col. 17, lines 1-10), with the third motor enclosed within a sealed third housing (figs. 3B and 8, refs. 160/198/202/220). Also please read col. 12, lines 31-44 and 50-63. In col. 17, lines 1-10, it states that the drive system, which includes a motor, can be placed on the other housings (joints) of the camera head to provide panning movement. Therefore, it is inherent for the first motor to be enclosed within the sealed third housing of Chapman.

10. **Claims 24-27 and 29** are rejected under 35 U.S.C. 102(e) as being anticipated by Jones (U.S. Pat. #6,965,411).

For **claim 24**, Jones discloses a camera support (fig. 8, col. 7, lines 4-41) comprising:
a first housing (fig. 3, refs. 82-84) having a first interior sealed space (90) (col. 3, lines 46-51);

Art Unit: 2612

a first motor (fig. 3, refs. 92,96,98/fig. 7, ref. 48) in the first interior sealed space (fig. 4; col. 3, lines 46-67; col. 4, lines 37-52; col. 6, lines 20-22);

a first purge gas port (fig. 7, refs. 78, 230, 238) on the first housing connecting into the first interior sealed space, for delivering a purge gas into the first interior sealed space (col. 6, lines 11-41);

a second housing (fig. 3, refs. 82-84) having a second interior sealed space (90), and with the second housing linked to the first motor for rotational movement of the second housing relative to the first housing about a first axis (52) (col. 3, lines 4-24 and 46-51);

a second motor (fig. 3, refs. 92,96,98/fig. 7, ref. 54) in the second interior sealed space (fig. 4; col. 3, lines 15-20 and 46-67; col. 4, lines 37-52; col. 6, lines 20-22);

a second purge gas port (fig. 7, refs. 80, 158, 160) on the second housing connecting into the second interior sealed space, for delivering a purge gas into the second interior sealed space (col. 6, lines 11-41);

a third housing (250) linked (254) to the second motor for rotational movement of the third housing relative to the second housing about a second axis (58) substantially perpendicular to the first axis (col. 7, lines 4-19).

For **claim 25**, Jones discloses the camera support further comprising a third interior sealed space (fig. 3, ref. 90) in the third housing (col. 3, lines 46-51; col. 7, lines 22-31), and a third motor (fig. 3, refs. 92,96,98/fig. 8, ref. 250) in the third interior sealed space (fig. 4; col. 3, lines 15-20 and 46-67; col. 4, lines 37-52; col. 6, lines 20-22; col. 7, lines 4-31), and a camera support plate (fig. 8, ref. 260) rotatably attached (ref. 256) to the third housing and linked to the

Art Unit: 2612

third motor for rotation of the camera support plate relative to the third housing about a third axis substantially perpendicular to the first axis and to the second axis (col. 7, lines 4-31).

For **claim 26**, Jones discloses a camera support (fig. 8, col. 7, lines 4-41) comprising:

a first housing (fig. 3, refs. 82-84) having a first interior sealed space (90) (col. 3, lines 46-51);

a first purge gas port (fig. 7, refs. 78, 230, 238) on the first housing connecting into the first interior sealed space, for delivering a purge gas into the first interior sealed space (col. 6, lines 11-41);

a first motor (fig. 3, refs. 92,96,98/fig. 7, ref. 48) supported by the first housing (fig. 4; col. 3, lines 46-67; col. 4, lines 37-52; col. 6, lines 20-22);

a second housing (fig. 3, refs. 82-84) having a second interior sealed space (90), and with the second housing linked to the first motor for rotational movement of the second housing relative to the first housing about a first axis (52) (col. 3, lines 4-24 and 46-51);

a second motor (fig. 3, refs. 92,96,98/fig. 7, ref. 54) supported by the second housing (fig. 4; col. 3, lines 15-20 and 46-67; col. 4, lines 37-52; col. 6, lines 20-22);

a second purge gas port (fig. 7, refs. 80, 158, 160) on the second housing connecting into the second interior sealed space, for delivering a purge gas into the second interior sealed space (col. 6, lines 11-41);

a third housing (250) linked (254) to the second motor for rotational movement of the third housing relative to the second housing about a second axis (58) substantially perpendicular to the first axis (col. 7, lines 4-19).

For **claim 27**, Jones discloses the camera support (fig. 8) with the second housing linked to the first motor by a first arm (68), and with the second housing securable onto the first arm at multiple positions on the first arm (col. 7, lines 4-19), and with third housing linked to the second motor by a second arm (254), and with third housing securable onto the second arm at multiple positions on the second arm (col. 7, lines 4-19).

For **claim 29**, Jones discloses the camera support further comprising an adjustable brake (inherently –hydraulic pressure directed to the servo valve 80) to set braking force against rotation of the second housing about the first axis (col. 6, lines 20-57).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. **Claim 14** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman (U.S. Pat. #6,517,207) in view of Fantone et al. (U.S. Pat. Pub. #2001/0048468).

For **claim 14**, Chapman does not further disclose a camera support wherein the first and second sealed housings are waterproof, to allow for under-water operation of the camera head. Instead, Chapman discloses Chapman further discloses a slip ring (fig. 7, ref. 234) assembly in each of the pan, tilt, and roll housings (col. 7, lines 53-62 and col. 8, lines 6-17), and cable segments apparently around the pivot points (col. 11, lines 38-44). Examiner takes Official Notice that it is well known in the art to utilize Teflon rings for sealing water out of housings,

Art Unit: 2612

which apparently would allow for underwater operation of the camera support. In a similar field of endeavor, Fantone teaches a surveillance video system in fig. 2, with an imager (116) connected to a waterproof cable (12). Please read pages 3-4, paragraphs 33-34. Both Chapman and Fantone have housings which capable of vertical and horizontal movements (page 3, paragraph 33). In light of the teaching of Fantone, it would have been obvious to one of ordinary skill in the art at the time the invention was made to improve Chapman's camera support wherein the first and second sealed housings are waterproof, to allow for under-water operation of the camera head in order to detect underwater creatures such as fish (Fantone, page 1, paragraphs 5-6) and to provide compression between a flex plate and the upper surface of a ring section of an arm plate (Chapman, col. 8, lines 6-17).

13. **Claim 19** is rejected under 35 U.S.C. 103(a) as being unpatentable over Chapman (U.S. Pat. #6,517,207) in view of Lindsay (U.S. Pat. #5,697,757).

For **claim 19**, Chapman does not disclose a position locking device moveable from a locked position, wherein the locking device prevents movement between the first arm and the second housing, to an unlocked position, wherein the second housing can move relative to the first arm, to adjust the size of the camera head. Instead, Chapman teaches that a locking device (figs. 4B and 7, refs. 220/222) is movable from a locked position to an unlocked position. In col. 7 line 53 – col. 8 line 5, Chapman explains how the locking element is tightened. Therefore, the locking element movable to be into an open position (or loosened) because the locking element is used for the operation of the panning and/or tilting in a sliding pivotal direction (col. 7 line 53 – col. 8 line 5).

In the same field of endeavor, Lindsay discloses a position locking device moveable from a locked position, wherein the locking device prevents movement between the first arm (35) and the second housing (36), to an unlocked position, wherein the second housing can move relative to the first arm, to adjust the size of the camera head (col. 4, lines 14-28 and 39-59). Both Chapman and Lindsay have components on the tilt arm for stabilizing or balancing the camera support (Chapman, col. 5, lines 55-57) (Lindsay, col. 4, lines 14-38). It would have been obvious to one of ordinary skill in the art at the time the invention was made to improve Chapman's camera head with a position locking device moveable from a locked position, wherein the locking device prevents movement between the first arm and the second housing, to an unlocked position, wherein the second housing can move relative to the first arm, to adjust the size of the camera head. This gives a camera head manufacturer an alternative for counterbalancing the arm of the camera support (Lindsay, col. 4, lines 29-38), and the camera head operator would be able to lock the arm in a fixed position of adjustment if required (Lindsay, col. 4, lines 39-41).

Allowable Subject Matter

14. **Claims 1-6 and 9-11** would be allowable if **claim 1** is rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

15. **Claims 28 and 30** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim 28 is allowed because the prior art does not teach or fairly suggest the camera support of claim 26 further comprising a lock pin moveable between a lock position, where the lock pin extends between the first housing and the second housing, to prevent movement between them, and an unlock position, wherein the lock pin is withdrawn from one of the first and second housings, to allow rotational movement between them.

Claim 30 is allowed because the prior art does not teach or fairly suggest the camera support of claim 26 further comprising a first shaft rotatably supported within the first housing, with the second housing attached to the first shaft, and the first shaft sealed against the first housing, a first gear linked to the first shaft through a first clutch, and with the first gear linked to the first motor, and one or more clutch drive pins sealed against the first housing, and moveable from a first position, wherein with first motor drives the first shaft through the first clutch, to a second position, wherein the first shaft can rotate free of the motor.

16. **Claims 18 and 23** are allowed (as previously discussed in the previous Office Action (mail date: 10/05/2005)).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carramah J. Quiett whose telephone number is (571) 272-7316. The examiner can normally be reached on 8:00-5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, NgocYen Vu can be reached on (571) 272-7320. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2612

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CJQ
March 17, 2006

A handwritten signature in black ink, appearing to read 'Ngoc-Yen Vu', with a long horizontal flourish extending to the right.

NGOC-YEN VU
SUPERVISORY PATENT EXAMINER